AMENDMENTS TO THE CLAIMS

1   1.   (Currently Amended) A method for translating between logical addresses and ports

2   of a first network and a logical address and ports of a second network connected to the first

3   network at an intermediate device, the method comprising the computer-implemented step

4   of:

5   receiving at the intermediate device a first packet from a first device having a first

6   address on the first network;

7   sending a second packet to a second device on the second network in response to

8   receiving the first packet, the second packet including, in a source address

9   field, data indicating a particular address of the intermediate device on the

10   second network;

11   determining whether the first packet includes a first message that registers a first

12   resource on the first device with a protocol server for a particular protocol, the

13   protocol server available at the second device on the second network, wherein:

14   the particular protocol does not support translated ports for requesting network

15   resources, and

16   the protocol server is configured to register unique names for resources

17   provided by devices on the second network according to the particular

18   protocol; and

19   if it is determined that the first packet includes the first message registering the first

20   resource, then

21   determining first information in the first message for uniquely requesting the

22   first resource, and

23   storing data indicating the first information in a first data structure in

24   association with the first address.

1   2.   (Original)   A method as recited in Claim 1, further comprising the computer-

2   implemented step of:

3   receiving at the intermediate device a third packet from a third device on the second

4   network;

Attorney Docket No.: 50325-0589

5   determining whether the third packet includes a second message requesting a second

6   resource according to the particular protocol; and

7   if it is determined that the third packet includes the second message requesting the

8   second resource, then

9   determining second information in the second message for uniquely

10   requesting the second resource,

11   determining whether the second information matches the first information in

12   the data structure, and

13   if the second information matches the first information, sending the second

14   message to the first device having the first address associated with the

15   first information.

1 3. (Original) A method as recited in Claim 1, wherein, if it is determined that the

2 first packet includes the first message, then inserting in the second packet a second message

3 based on the first message.

1 4. (Original) A method as recited in Claim 3, wherein the second message is the

2 same as the first message.

1 5. (Original) A method as recited in Claim 3, further comprising the computer-

2 implemented step of generating the second message by replacing, in a source address field,

3 data indicating the first address with data indicating the particular address of the intermediate

4 device on the second network.

1 6. (Original) A method as recited in Claim 1, wherein.

2   a source port field in the first packet includes data indicating a first source port;

3   said step of sending the second packet to the second device further comprises

4   storing in a second data structure uniquely associated with the first address

5   and the first source port a particular translated port, and

6   inserting data indicating the particular translated port into a source port field

7   of the second packet.

3

1 7.   (Previously Presented)   A method as recited in Claim 1, wherein the particular

2 protocol uses a well-known port for requesting the first resource.

1 8.   (Original)   A method as recited in Claim 1, wherein the particular protocol is a

2 network basic input and output system (NetBIOS) open protocol.

1 9.   (Original)   A method as recited in Claim 1, wherein the protocol server is a

2 network basic input and output system (NetBIOS) name server.

1 10.   (Original)   A method as recited in Claim 1, wherein the first information is a

2 resource name.

1 11.   (Original)   A method as recited in Claim 5, wherein the protocol server is a name

2 server that stores a resource name of the first resource in the second message in association

3 with an address based on data in the source address field of the second message.

1 12.   (Original)   A method as recited in Claim 1, wherein the protocol server is a name

2 server that stores data indicating a resource name of the first resource, and does not store data

3 in a source port field of the second packet in association with the resource name.

1 13.   (Original)   A method as recited in Claim 2, wherein the third packet includes, in a

2 destination address field, data indicating the particular address of the intermediate device.

1 14.   (Original)   A method as recited in Claim 2, said step of determining whether the

2 third packet includes the second message comprising determining whether a destination port

3 field in the third packet includes data indicating a well-known port associated with requesting

4 a resource according to the particular protocol.

4

1 15. (Original) A method as recited in Claim 1, further comprising the computer-
2 implemented steps of:
3   monitoring messages associated with registering the first resource with the protocol
4   server;
5   determining whether the first resource is not registered with the protocol server; and
6   if it is determined that the first resource is not registered with the protocol server, then
7   removing from the first data structure the data indicating the first information
8   in association the first address.

1 16. (Currently Amended) A method for translating between logical addresses and ports
2 of a first network, and a logical address and ports of a second network connected to the first
3 network at an intermediate device, the method comprising the computer-implemented steps
4 of:
5   receiving a first packet at the intermediate device from a first device not on the first
6   network,
7   sending a second packet to a second device on the first network in response to
8   receiving the first packet, the second packet including, in a destination address
9   field, data indicating a translated address;
10   determining whether the first packet includes a first message requesting a resource
11   according to a particular protocol, wherein:
12   the particular protocol does not support translated ports for requesting network
13   resources, and
14   a protocol server, which is not on the first network, is configured to register
15   unique names for resources provided by devices not on the first
16   network according to the particular protocol; and
17   if it is determined that the first packet includes the first message requesting the
18   resource, then
19   determining first information in the first message for uniquely requesting the
20   resource, and

5

21   before said step of sending the second packet, determining the translated

22   address on the first network based on a data item in a first data

23   structure, the data item indicating the translated address and the first

24   information.

1   17.   (Original)   A method as recited in Claim 16, wherein, if it is determined that the

2   first packet includes the first message, then inserting in the second packet a second message

3   based on the first message.

1   18.   (Original)   A method as recited in Claim 17, wherein the second message is the

2   same as the first message.

1   19.   (Original)   A method as recited in Claim 16, wherein the particular protocol uses

2   a well-known port for requesting the resource.

1   20.   (Previously Presented)   A method as recited in Claim 16, wherein the particular

2   protocol is a network basic input and output system (NetBIOS) open protocol.

1   21.   (Original)   A method as recited in Claim 16, wherein the first information is a

2   resource name.

1   22.   (Original)   A method as recited in Claim 16, wherein the first packet includes, in a

2   destination address field, data indicating a particular address of the intermediate device.

1   23.   (Original)   A method as recited in Claim 16, said step of determining whether the

2   second packet includes the first message comprising determining whether a destination port

3   field in the first packet includes data indicating a well-known port associated with requesting

4   a resource according to the particular protocol.

Attorney Docket No.: 50325-0589

1   24.   (Currently Amended) A method as recited in Claim 16, wherein the first device

2   obtains the first information from [[a]] the protocol server that is not on the first network.

1   25.   (Original)   A method as recited in Claim 24, wherein the protocol server is a

2   network basic input and output system (NetBIOS) name server.

1   26.   (Currently Amended) A computer-readable medium carrying one or more sequences

2   of instructions for translating between logical addresses and ports of a first network, and

3   logical addresses and ports of a second network connected to the first network at an

4   intermediate device, which instructions, when executed by one or more processors, cause the

5   one or more processors to carry out the steps of:

6   receiving at the intermediate device a first packet from a first device having a first

7   address on the first network;

8   sending a second packet to a second device on the second network in response to

9   receiving the first packet, the second packet including, in a source address

10   field, data indicating a particular address of the intermediate device on the

11   second network;

12   determining whether the first packet includes a first message that registers a first

13   resource on the first device with a protocol server for a particular protocol, the

14   protocol server available at the second device on the second network, wherein:

15   the particular protocol does not support translated ports for requesting network

16   resources, and

17   the protocol server is configured to register unique names for resources

18   provided by devices on the second network according to the particular

19   protocol; and

20   if it is determined that the first packet includes the first message registering the first

21   resource, then

22   determining first information in the first message for uniquely requesting the

23   first resource, and

7

24   storing data indicating the first information in a first data structure in

25   association with the first address.

1   27.   (Currently Amended) A computer-readable medium carrying one or more sequences

2   of instructions for translating between logical addresses and ports of a first network, and

3   logical addresses and ports of a second network connected to the first network at an

4   intermediate device, which instructions, when executed by one or more processors, cause the

5   one or more processors to carry out the steps of:

6   receiving a first packet at the intermediate device from a first device not on the first

7   network,

8   sending a second packet to a second device on the first network in response to

9   receiving the first packet, the second packet including, in a destination address

10   field, data indicating a translated address;

11   determining whether the first packet includes a first message requesting a resource

12   according to a particular protocol, wherein:

13   the particular protocol does not support translated ports for requesting network

14   resources, and

15   a protocol server, which is not on the first network, is configured to register

16   unique names for resources provided by devices not on the first

17   network according to the particular protocol; and

18   if it is determined that the first packet includes the first message requesting the

19   resource, then

20   determining first information in the first message for uniquely requesting the

21   resource, and

22   before said step of sending the second packet, determining the translated

23   address on the first network based on a data item in a first data

24   structure, the data item indicating the translated address and the first

25   information.

Attorney Docket No.: 50325-0589

1 28.   (Currently Amended) An apparatus for translating between logical addresses and

2 ports of a first network, and logical addresses and ports of a second network connected to the

3 first network at an intermediate device, comprising:

4   means for receiving at the intermediate device a first packet from a first device having

5   a first address on the first network;

6   means for sending a second packet to a second device on the second network in

7   response to receiving the first packet, the second packet including, in a source

8   address field, data indicating a particular address of the intermediate device on

9   the second network;

10   means for determining whether the first packet includes a first message that registers

11   a first resource on the first device with a protocol server for a particular

12   protocol, the protocol server available at the second device on the second

13   network, wherein:

14   the particular protocol does not support translated ports for requesting network

15   resources, and

16   the protocol server is configured to register unique names for resources

17   provided by devices on the second network according to the particular

18   protocol;

19   means for determining first information in the first message for uniquely requesting

20   the first resource, if it is determined that the first packet includes the first

21   message, and

22   means for storing data indicating the first information in a first data structure in

23   association with the first address, if it is determined that the first packet

24   includes the first message.

1 29.   (Currently Amended) An apparatus for translating between logical addresses and

2 ports of a first network, and logical addresses and ports of a second network connected to the

3 first network through the apparatus, comprising:

4   a first network interface that is coupled to the first network for sending and receiving

5   messages thereon;

9

6   a second network interface that is coupled to the second network for sending and

7   receiving messages thereon;

8   a processor;

9   one or more stored sequences of instructions which, when executed by the processor,

10   cause the processor to carry out the steps of:

11   receiving at the intermediate device a first packet from a first device having a

12   first address on the first network;

13   sending a second packet to a second device on the second network in response

14   to receiving the first packet, the second packet including, in a source

15   address field, data indicating a particular address of the intermediate

16   device on the second network;

17   determining whether the first packet includes a first message that registers a

18   first resource on the first device with a protocol server for a particular

19   protocol, the protocol server available at the second device on the

20   second network, <u>wherein:</u>

21   <u>the particular protocol does not support translated ports for requesting</u>

22   <u>network resources, and</u>

23   <u>the protocol server is configured to register unique names for resources</u>

24   <u>provided by devices on the second network according to the</u>

25   <u>particular protocol</u>; and

26   if it is determined that the first packet includes the first message registering

27   the first resource, then

28   determining first information in the first message for uniquely

29   requesting the first resource, and

30   storing data indicating the first information in a first data structure in

31   association with the first address.

1   30.   (New) An apparatus as recited in Claim 28, further comprising:

2   means for receiving at the intermediate device a third packet from a third device on

3   the second network;

4   means for determining whether the third packet includes a second message requesting

5   a second resource according to the particular protocol;

6   means for determining second information in the second message for uniquely

7   requesting the second resource, if it is determined that the third packet

8   includes the second message requesting the second resource;

9   means for determining whether the second information matches the first information

10   in the data structure if it is determined that the third packet includes the

11   second message requesting the second resource; and

12   means for sending the second message to the first device having the first address

13   associated with the first information, if it is determined that the third packet

14   includes the second message requesting the second resource and if the second

15   information matches the first information.

1   31.   (New) An apparatus as recited in Claim 28, wherein:

2   a source port field in the first packet includes data indicating a first source port; and

3   the means for sending the second packet to the second device further comprises:

4   means for storing in a second data structure uniquely associated with the first

5   address and the first source port a particular translated port, and

6   means for inserting data indicating the particular translated port into a source

7   port field of the second packet.

1   32.   (New) An apparatus as recited in Claim 28, wherein the particular protocol is a

2   network basic input and output system (NetBIOS) open protocol.

1   33.   (New) An apparatus as recited in Claim 28, further comprising:

2   means for inserting in the second packet a second message based on the first message,

3   if it is determined that the first packet includes the first message; and

4   means for generating the second message by replacing, in a source address field, data

5   indicating the first address with data indicating the particular address of the

6   intermediate device on the second network, wherein the protocol server is a

7   name server that stores a resource name of the first resource in the second

Attorney Docket No.: 50325-0589

8   message in association with an address based on data in the source address

9   field of the second message.

1   34.   (New) An apparatus as recited in Claim 28, further comprising:

2   means for monitoring messages associated with registering the first resource with the

3   protocol server;

4   means for determining whether the first resource is not registered with the protocol

5   server; and

6   means for removing from the first data structure the data indicating the first

7   information in association the first address, if it is determined that the first

8   resource is not registered with the protocol server.

1   35.   (New) An apparatus as recited in Claim 29, wherein the one or more stored

2 sequences of instructions further comprise instructions which, when executed by the

3 processor, cause the processor to carry out the steps of:

4   receiving at the intermediate device a third packet from a third device on the second

5   network;

6   determining whether the third packet includes a second message requesting a second

7   resource according to the particular protocol; and

8   if it is determined that the third packet includes the second message requesting the

9   second resource, then

10   determining second information in the second message for uniquely

11   requesting the second resource,

12   determining whether the second information matches the first information in

13   the data structure, and

14   if the second information matches the first information, sending the second

15   message to the first device having the first address associated with the

16   first information.

1   36.   (New) An apparatus as recited in Claim 29, wherein:

2   a source port field in the first packet includes data indicating a first source port; and

12

3   the sequences of instructions which cause the processor to carry out the step of
4   sending the second packet to the second device further comprise instructions
5   which, when executed by the processor, cause the processor to carry out the
6   steps of:
7   storing in a second data structure uniquely associated with the first address
8   and the first source port a particular translated port, and
9   inserting data indicating the particular translated port into a source port field
10   of the second packet.

1   37.   (New) An apparatus as recited in Claim 29, wherein the particular protocol is a
2   network basic input and output system (NetBIOS) open protocol.

1   38.   (New) An apparatus as recited in Claim 29, wherein the one or more stored
2   sequences of instructions further comprise instructions which, when executed by the
3   processor, cause the processor to carry out the steps of:
4   if it is determined that the first packet includes the first message, then inserting in the
5   second packet a second message based on the first message; and
6   generating the second message by replacing, in a source address field, data indicating
7   the first address with data indicating the particular address of the intermediate
8   device on the second network, wherein the protocol server is a name server
9   that stores a resource name of the first resource in the second message in
10   association with an address based on data in the source address field of the
11   second message.

1   39.   (New) An apparatus as recited in Claim 29, wherein the one or more stored
2   sequences of instructions further comprise instructions which, when executed by the
3   processor, cause the processor to carry out the steps of:
4   monitoring messages associated with registering the first resource with the protocol
5   server;
6   determining whether the first resource is not registered with the protocol server; and

13

7   if it is determined that the first resource is not registered with the protocol server, then

8   removing from the first data structure the data indicating the first information in association the first address.

9   in association the first address.

Attorney Docket No.: 50325-0589